

REMARKS

This Amendment is filed in response to the Office Action filed on July 31, 2003. All objections and rejections are respectfully traversed.

Claims 1-29 are pending in the application. Claims 30- 45 have been added to better claim the invention.

Claims 27-29 have been allowed. Applicants appreciate that claims 7, 8, 13, 14, 19, 20, 22, 23, 25, and 26 have been found allowable if written in independent form. Applicants have added independent claims 36, 38, 40, 42, 43, 44 and 45 that reflect the Examiner's request that claims 7, 13, 19, 22, 23, 25, and 26 be rewritten in independent form. Additionally, claims 37, 39 and 41 are dependent claims that reflect claims 8, 14, and 20.

At page 2 of the Office Action, the Examiner noted typographical errors in Claim 4 and Claim 27 of the Application. Those claims have been amended to reflect the corrections. In addition, Applicants have amended claims 10, 15, 17, and 18 to correct typographical errors and clarify the claims. Claim 23 has been amended to claim dependency on an independent claim.

Claims 1, 2, 4-6, 9-12, and 15-18 have been rejected under 35 U.S.C. 102(e) as being anticipated by Jarrett, U.S. Patent No. 6,044,551, issued on April 4, 2000. Claims 1-6, 9-12, 15-18, 21 and 24 have been rejected under 35 U.S.C. 103(a) as being deemed unpatentable over Jarrett alone, and in view of McAnally et al., U.S. Patent No. 5,949,652, issued on September 7, 1999.

Briefly, the present invention teaches a securing mechanism comprising a latching system enclosed within a housing that serves to secure a connector with a module, and the module to a main housing. See Application at 1-2. The latching system prevents removal of the module from the main housing prior to disengagement of the connector, and also keeps the connector secured to the module while simultaneously keeping the module secured to the main housing. Several claimed features of the invention make this possible.

One embodiment of the present invention, as set forth in representative claim 9 comprises:

a housing; and
a latch mounted within the housing, the latch having a connector latch protrusion engageable with a connector, and a module latch protrusion, engageable with a housing support, engagement of the connector latch protrusion with the connector causing the module latch protrusion to engage the housing support.

The connector latch protrusion engages with the connector in a manner that consequently secures the connector to the module. See Application at 2, 8. As claimed, the engagement of the connector latch with the connector causes the module latch to engage the housing support, thus preventing the removal of the module and attached connector from the housing support prior to the detachment of the connector. Other embodiments of the claimed invention include a "position adjusting mechanism" that provides added security to the attachment by requiring a tool to adjust the latch position. See Application at 6. Amended claim 1, among other claims, reflects this embodiment. In addition, other embodiments include a "tool securing mechanism" that after being engaged, prevents motion of a latch and prevents motion of the tool within the securing mechanism. See Application at 11-12.

not in claim

Jarrett teaches a power cable interface that locks a power supply into a chassis when a power cable is coupled to the interface. The interface in Jarrett has two positions: locked and unlocked. These two positions prevent the removal of the power supply from an chassis while a power cable is coupled to the interface, or alternatively the insertion of the power supply into a chassis while a power cable is coupled to the interface.

McAnally teaches a device for securing a power supply in a chassis that assists in inserting and securing a power cord into the power supply. The device taught by McNally comprises a moveable handle attached to the power supply housing that pivots in a way that clamps over the power supply and secures it in the chassis. The handle can include a flange that applies a levered force at the power cord plug, thus blocking and securing the cord while the handle is clamped. Further, McNally teaches using the moveable handle as an actuator to control a power switch of the power supply.

35 U.S.C. 102(e)

At pages 2-3 of the Office Action, claims 1, 2, 4-6, 9-12, and 15-18 were rejected under 35 U.S.C. 102(e) as anticipated by Jarrett. As discussed above, Jarrett teaches a power cable interface that prevents the removal of the power supply from a chassis while a power cable is coupled to the power supply. The interface taught by Jarrett fails to “engage” the connector as taught in the present invention. When the connector (power cable) is coupled to the power supply, the interface taught by Jarrett rests on the cable and fails to secure the connector to the interface. The Examiner contends that the term “engage” includes the “frictional” contact shown in Jarrett. This, however, is inconsistent with Applicants’ usage of the term throughout the Application.

The term “engage” is frequently used throughout the Application to suggest a secured interconnect. See Application at 5, lines 16-19 (“Engagement of the connector latch protrusion 12 with a connector 52 prevents removal of the connector 52 from the module 50. . .”). In support of the Examiner’s construction of the term “engage”, the Examiner notes that page 8, lines 27-29 of the Application discloses Applicants’ mechanism where the connector lacks a flange. A flange, however, is not required for the mechanism to interlock with the connector. A connector may, for example, possess a notch where the connector latch can catch and hold the connector. However, as stated in the first sentence of the paragraph from which the Examiner cites, “[p]referably, the connector 52 includes a flange 54.” The practice of the invention in the absence of a flange should not be read to define the term “engage,” since the term itself has a meaning readily discernable from the Specification.

The invention relates to a **securing** mechanism involving two **latching** junctions, one between the connector and module, the other between the module and housing support. Therefore, the term “engage” should be defined in the context of latches. A “latch” as defined in the Fourth Edition of Webster’s Dictionary (2001) means: “1. A fastening for a door or gate, [especially] one capable of being worked from either side by means of a lever and consisting of a bar that ***falls into a notch*** in a piece attached to the doorjamb or gatepost.” This implies a positive engagement between the latch protrusion and an interface, that creates driving contact between the two, rather than simply creating the frictional contact of Jarrett. Jarrett makes no reference whatsoever to latches, and refers to securing and engagement only with respect to a

module (5) with a chassis (30). In fact, the structure (14) in Jarrett cited by the Examiner that “frictionally engages” with a power cable is referred to as an “interface guard” that relates to the “attaching” of the power cable, rather than “securing” or “engaging.” The distinction drawn by the language in Jarrett makes clear that Jarrett fails to meet the claim limitation of a “connector *latch* protrusion *engageable* with a connector.”

Independent claims 1, 9, 15, 21, and 24 contain the limitation of “having a connector latch protrusion engageable with a connector” not met by Jarrett. Therefore, those claims, as well as claims dependent therefrom, are believed to be in condition for allowance.

Other claims possess features that reflect other embodiments of the invention, such as claim 1, as amended, which includes requiring “a tool insertable into the housing to adjust the position of the connector latch in order to engage or disengage the connector latch from the connector.” By enclosing the connector latch within the housing, a tool is required to move the position adjustment mechanism, thereby preventing inadvertent removal of a connector from the module. See Application at 2, 6. Nothing in the cited art discloses this feature, and therefore independent claim 1, and all claims dependent on it, are believed to be in condition for allowance.

35 U.S.C. 103(a)

At pages 3-4 of the Office Action, Claims 1-6, 9-12, 15-18, 21 and 24 were rejected under 35 U.S.C. 103(a) as being deemed unpatentable over Jarrett alone, and in view of McAnally. The Examiner contends that if the term “engagement” were not to include a “frictional engagement,” the engagement of Applicants’ claims would be obvious by the structure alone, or would be obvious in view of McAnally’s securing handle that blocks the connector. Obviousness cannot be established by combining the teachings of the prior art to produce the claimed invention, absent some teaching, suggestion, or incentive supporting the combination. See Ex parte Metcalf, 67 U.S.P.Q.2d 1633, 1635 (2003) (finding Examiner improperly combined two prior art references without providing some teaching, suggestion, or incentive supporting the proposed combination); see also Carella v. Starlight Archery and Pro Line Co., 804 F.2d 135, 140, 231 U.S.P.Q. 644 647 (Fed. Cir. 1986).

Jarrett only teaches a mechanism for preventing the disconnect of a module from a housing support prior to the disconnect of a power connector. As discussed above, the language in Jarrett makes clear that Jarrett failed to contemplate providing a securing mechanism for engaging a module to the connector, and only intended to provide a secure attachment between a module and a chassis. The structure shown in Jarrett fails to teach either a flange or notch that would suggest the “engagement” contemplated by Applicants’ invention. As described in the Application, one benefit of the invention is “preventing inadvertent removal of a connector from the module.” See Application at 2, lines 9-10. Jarrett’s main objective is preventing removal of the module from a chassis prior to removing the power cable, and preventing insertion of a module into a chassis while a power cable is coupled to the module, but Jarrett neither teaches nor suggests a structure to secure the power cable to the module.

The cable blocking structure taught by McAnally consists of a flange attached to a handle moveably secured to the module that pivots in a manner that secures the power cable into the module when the module is locked into the chassis. While McAnally provides a flange that secures a power cable to a module, the device contemplated by McAnally does not require the removal of the power cable from the module prior to the removal of the module from the chassis. Further, while the flange in McAnally operates in a manner that secures the cable, the overall structure of the chassis-attached handle differs considerably from the use of a housed latch. While the flange in McAnally moves along the arc of the handle, the latch interface similar to both Jarrett and the present invention operates quite differently in terms of its location on the module and biased movement. Therefore, it would not be obvious to combine the flange in McAnally with the cable interface of Jarrett to establish a latching device that “engages” with the connector.

It is insufficient to simply find various bits and pieces of a structure from different prior art references and make a bold statement that it would be obvious to combine them. The mere fact that the prior art may be modified in the manner suggested by the Examiner does not make the modification obvious unless the prior art suggested the desirability of the modification. See Ex parte Metcalf, 67 U.S.P.Q.2d at 1635 (citing In re Fritch, 972 F.2d 1260, 1266, 23 U.S.P.Q.2d 1780, 1784 (Fed. Cir. 1992)). Only Applicants recognized a need for a single device to dictate the order in which connections may be made, while simultaneously providing a secured

attachment between a module to a chassis, and a power connector to a module. Neither Jarrett nor McAnally provide a solution to the problem recognized only by the Applicants. Indeed, it is only the Applicants who provide such a mechanism.

Independent claims 1, 9, 15, 21, and 24 contain Applicants' "latch" that "engages" with a connector in combination with a mechanism that causes engagement of a module to a housing support when the connector is engaged to the module. Applicants respectfully urge that Jarrett and McAnally, taken alone or in combination, do not render the present claimed invention obvious under 35 U.S.C. 103.

Newly Added Claims

In addition to claims 36-45 discussed above, Applicants have added dependent claims 30 and 31 to better claim the invention.


Further, independent claim 32 is a newly added claim that incorporates the novel element of a position adjusting mechanism of Applicants' invention as discussed above. Claims 33, 34 and 35 are dependent from claim 32 are thus believed to be in condition for allowance. No new matter has been introduced.

CONCLUSION

In view of the above amendments and remarks, it is believed that all claims are in condition for allowance, and it is respectfully requested that the application be passed to issue. If the Examiner feels that a telephone conference would expedite prosecution of this case, the Examiner is invited to call the undersigned.

Respectfully submitted,

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